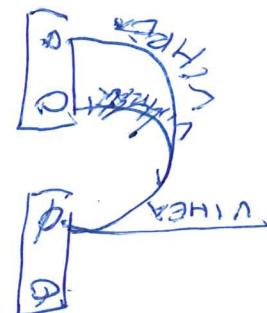
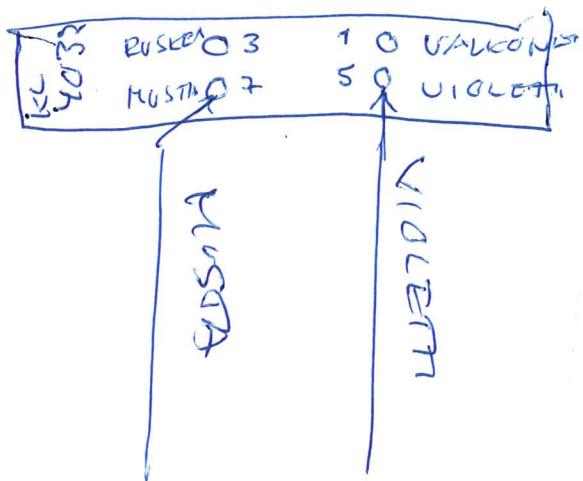


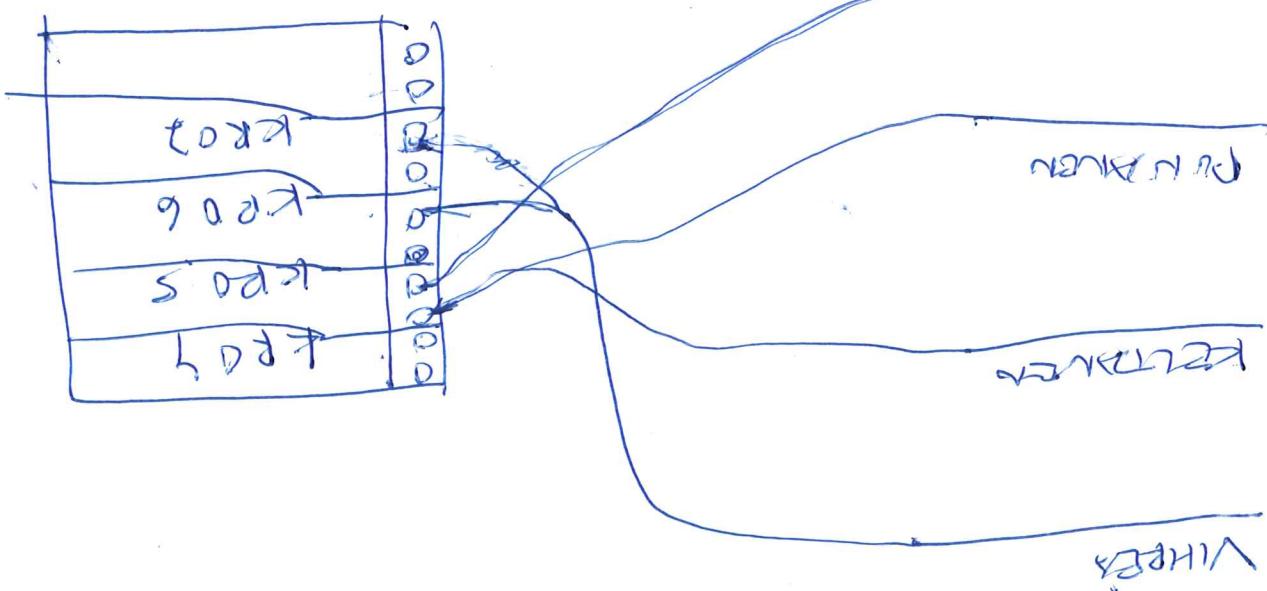
DATA KISKON  
PURATTU JA MO-



LAURIA  
LICHIA

DOPO 2.52.01

SLVING



SAFETY  
CONTROLLER  
ROCKWELL

RESET  
KIPPSCHALTER

## SERVICE-MODE KIPPSCHALTER

PROGR. - MODE  
KIPPSCHALTER

SAFETY  
CONTROLLER  
FRONTSEITE

ANBAUSEITE

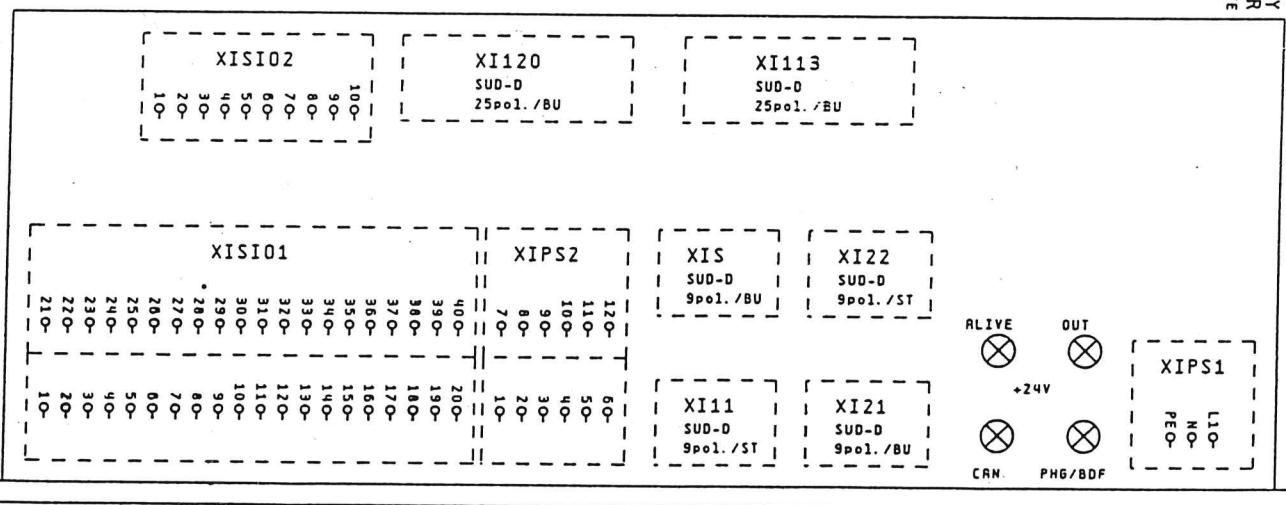
ANSICHT VON  
HINTEN !

Datum :	16. Aug. 1999	INITIATIV:
R. Det. :	26. Mai. 1999	SRVG ROBOT-STAR V
Beard. :	B. JACOBI	
Änderung		
Name	Geor. .	

The diagram illustrates a safety controller with the following components and labels:

- ANSICHT VON HINTEN:** A label indicating a rear view, positioned above a horizontal line.
- ANBRÄUSEITE:** A label indicating a front view, positioned above a horizontal line.
- SAFETY CONTROLLER RUCKWÄRTS:** A label for the rear safety controller, positioned above a black circle.
- RESET KIPPSCHALTER:** A label for a reset switch, positioned above a black circle.
- SERVICE-MODE KIPPSCHALTER:** A label for a service mode switch, positioned above a black circle.
- PROGR.-MODE KIPPSCHALTER:** A label for a program mode switch, positioned above a black circle.

<b>ROBOTS</b>	013326	52.588.00
ROBOTICS	PLASMA MODULES OY	50.00



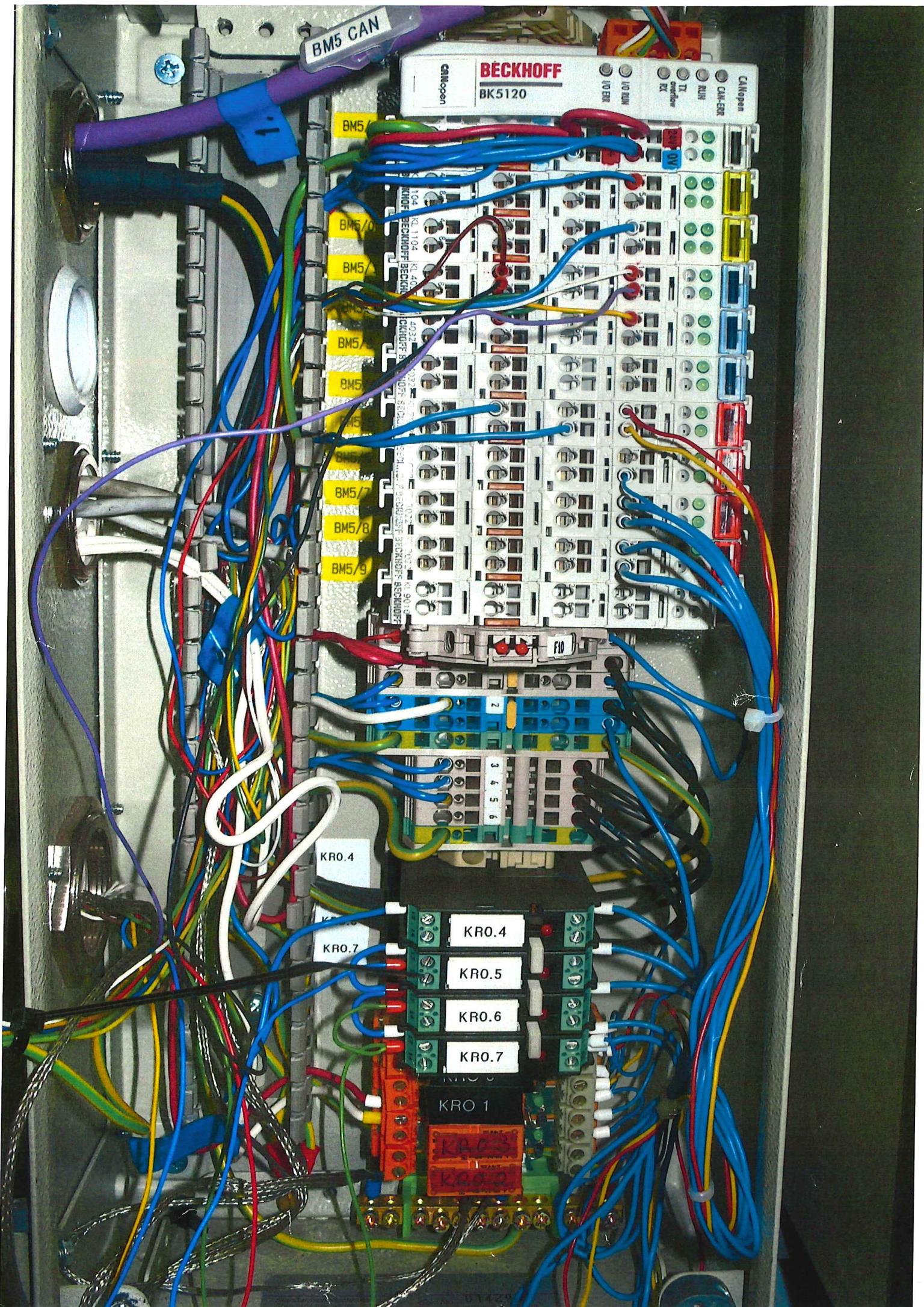
ANSICHT VON  
VORNE |

KRO.4

KR0.5

KR0.6

KR0.7



KR0.2

KR0.3

KR0.1

KR0.7

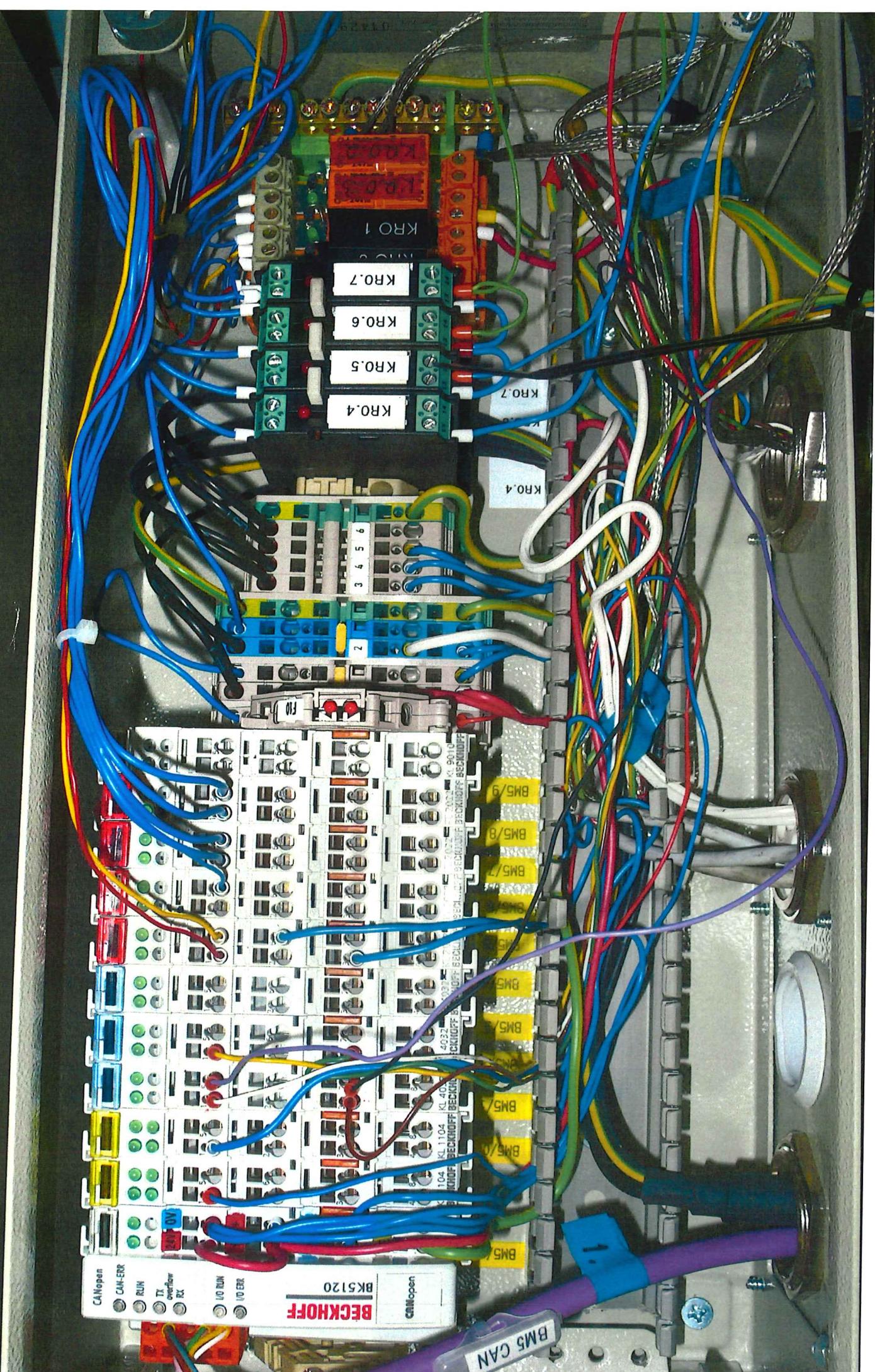
KR0.6

KR0.5

KR0.4

KR0.4





KR0.2

KR0.3

KR0.1

KR0.7

KR0.6

KR0.5

KR0.4



KRO.1

KRO.7

KRO.6

KRO.5

KRO.4

KRO 1

KRO 0

KRO 7

KRO 6

KRO 5

KRO 4

ESI

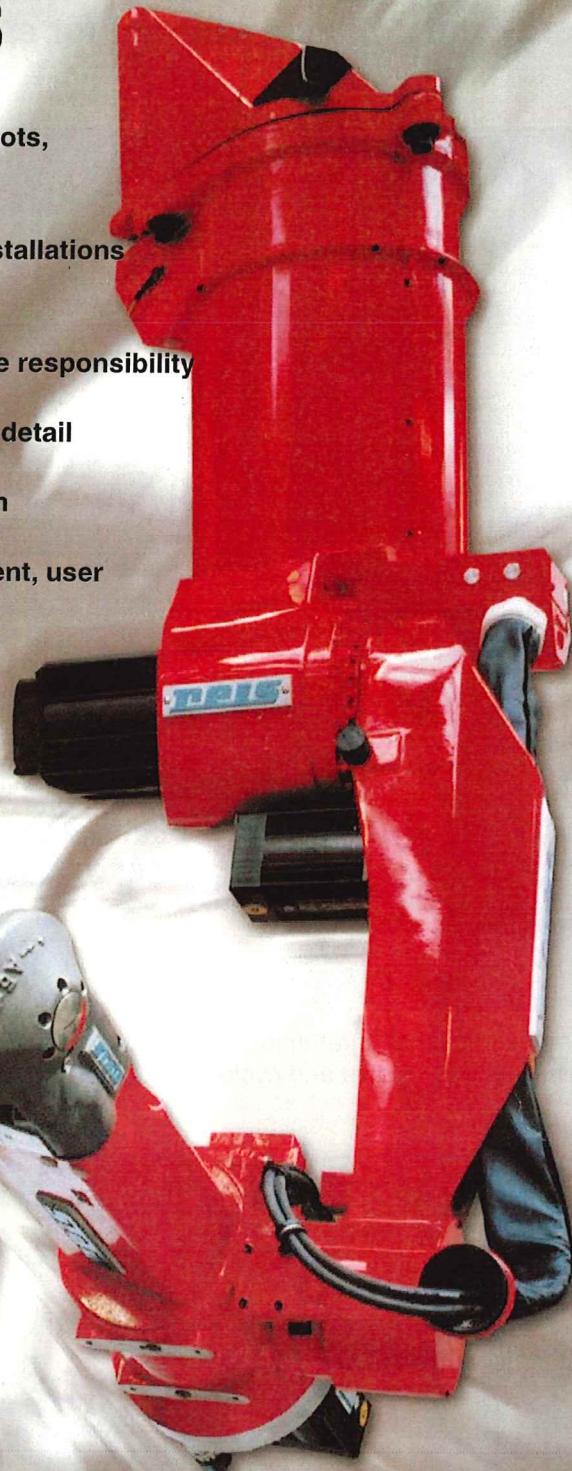
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4

# Advantages and benefits of REIS automation systems

- In house development and production of robots, controls and peripheral equipment
- Far-reaching experience, more than 7,000 installations worldwide
- Turnkey systems with process and procedure responsibility
- Customer-specific solutions fine tuned in all detail
- Extensive product range with modular design
- Professional training and process development, user orientated and effective
- Worldwide renown, competent service
- First class references in all fields



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Reis Robotics do Brasil Ltda

Rua Dr. Ribeiro de Almeida, 286

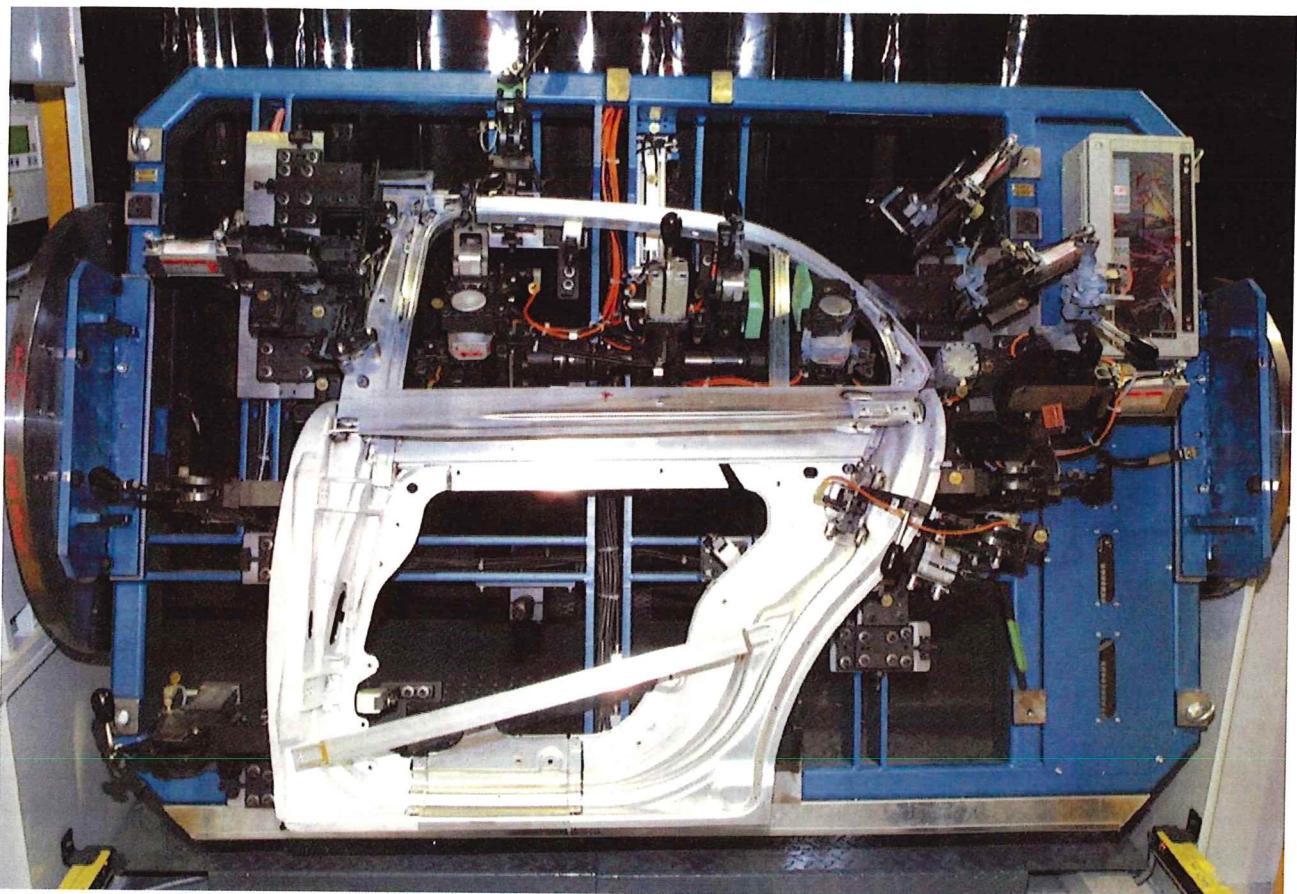
BR-01137-020 - São Paulo - SP

Phone: +55 (0 xx 11)-3612-2154

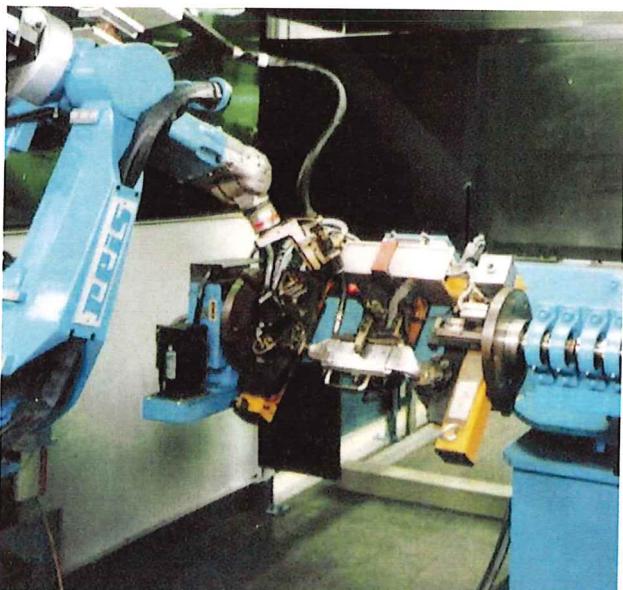
Fax: +55 (0 xx 11)-3612-2047

# Fixtures

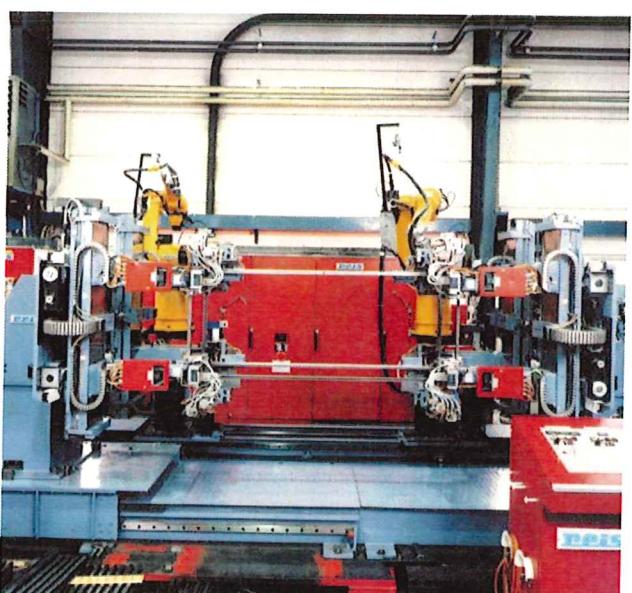
Automation specific and user friendly adjusted in all details



Robot and operator friendly positioning or clamping device for reception of car door frames. Monitoring and controlling of all-important functions through BUS technology.



Pneumatic welding device for exhaust recirculation systems from stainless steel, in customer specific design.



Freely programmable device with 7 axes integrated into robot control, for automated production of control cabinets.

# Movable welding cabins

Turnkey, immediately ready for operation, in various designs



Movable welding cabin with manual rotary table (2-station operation) for component feeding and 6 axes welding robots. Mounting of robot control and welding hardware on rear side of same transportation frame.



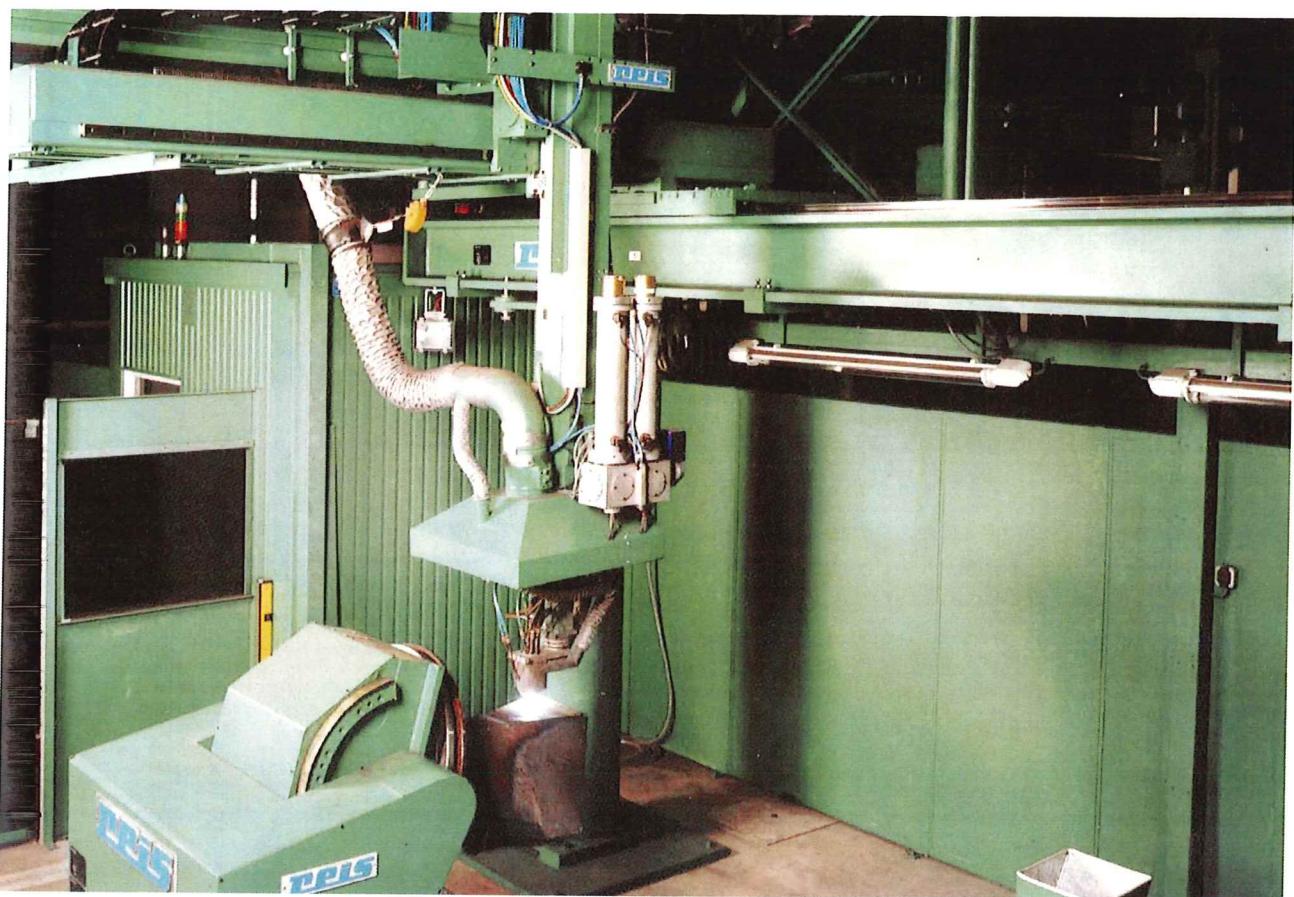
2-station welding cabin with integrated freely programmable head and tailstock turning devices and centrally located welding robot.



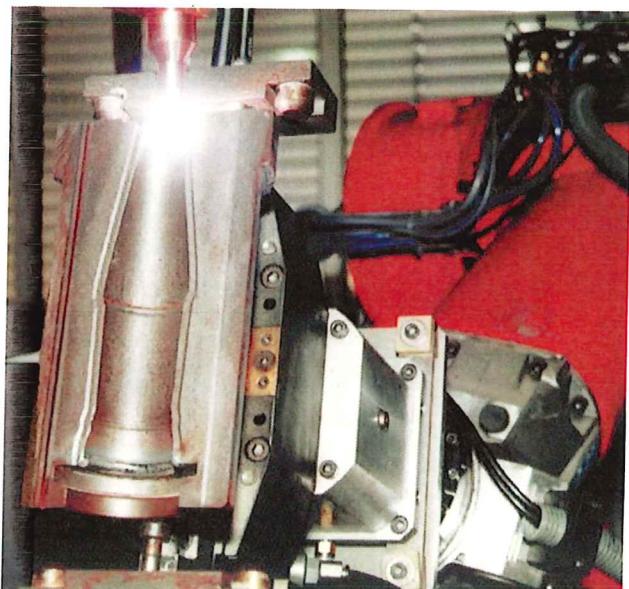
Robot welding cabin with electrical 2 to 4- station rotary table and safeguarded insert lock.

# TA welding systems

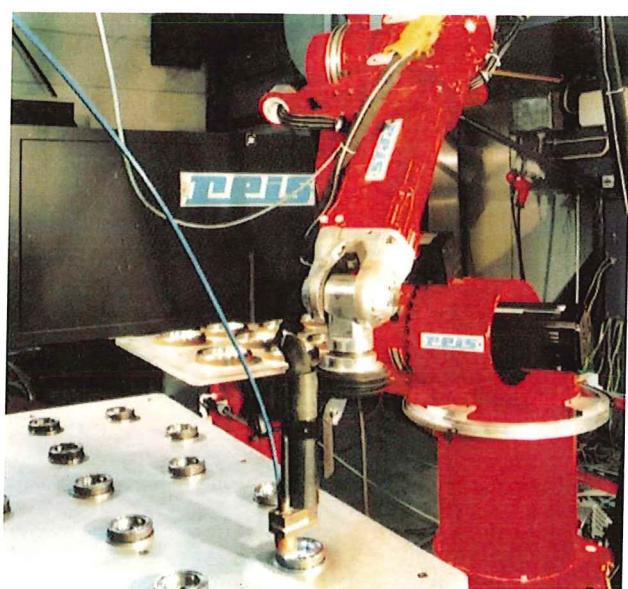
High quality coating installations for highest economic efficiency



High capacity plasma surfacing welding system for the production of wear components or sheet metals with surfacing capacities of up to 20 kg/h.



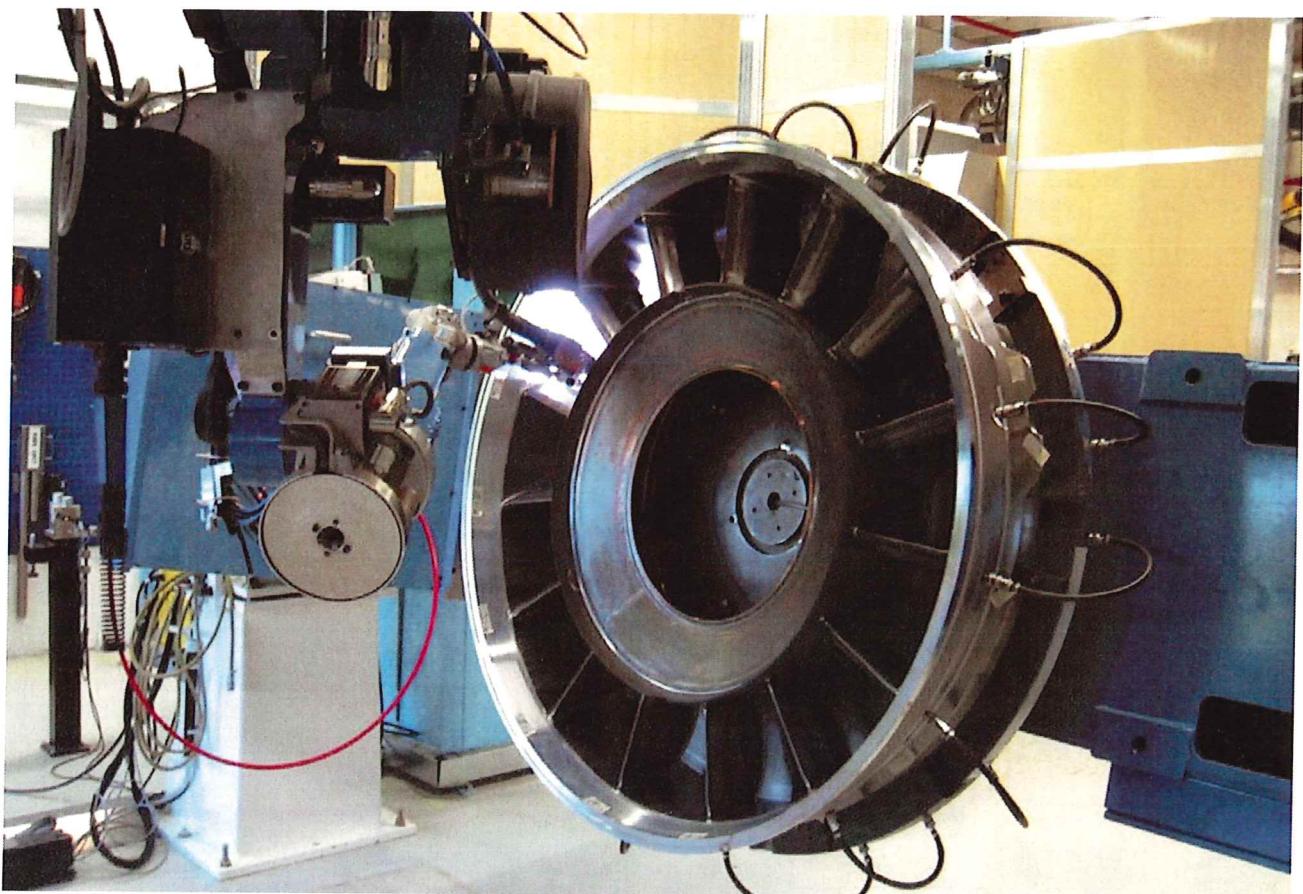
Surfacing of specific wear protection by means of wire or powder to preheated molds by handling parts under stationary welding torch.



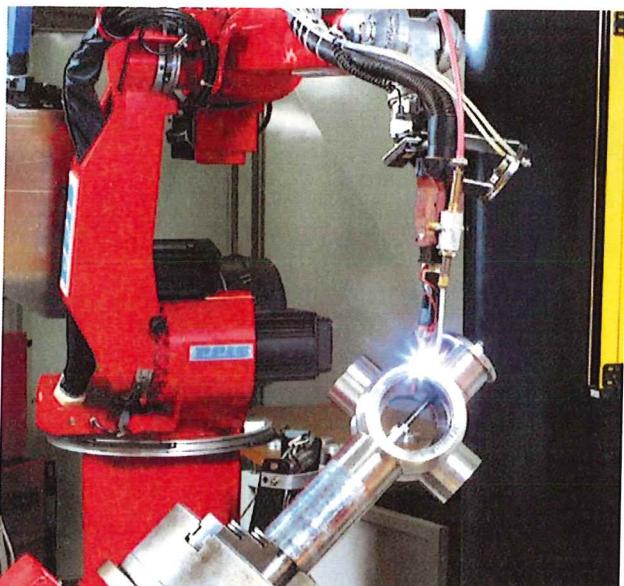
PTA welding of valve seats in connection with manual rotary table and upright robot in 4-station operation.

# TIG welding systems

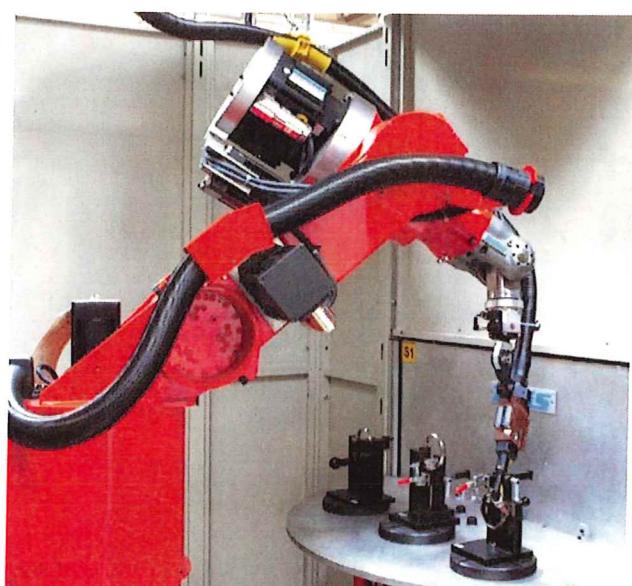
Highly precise robot and peripheral modules for demanding applications



Robotic production of high end components for aircraft turbines with a total of 10 freely programmable axes. Use of sensors for compensation of tolerance.



Handling and welding of stainless steel fixtures with automated feeding and unfeeding of components by means of combined weld torch/gripper.



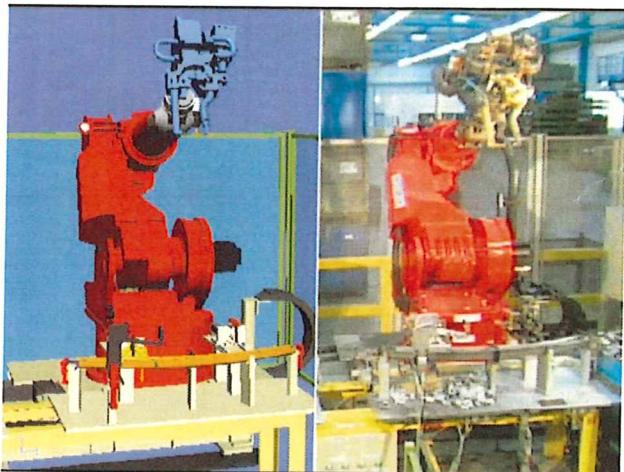
Precision welding of thin-walled pressure gauge casings from stainless steel with or without cold wire feed.

# REIS ProSim - Simulation software

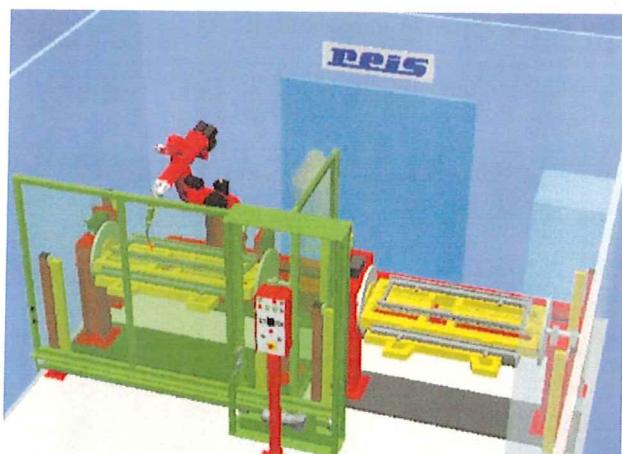
ProSim allows visualization and simulation of new or modified robot processes and installation concepts offline at the PC. The realistic representation of all installation components and sequences already in the planning phase ensures a reliable process analysis. This reduces the program-related machine downtimes up to 80%.

## Advantages:

- Robot programming and program test run with integrated anti-collision check on Windows-PC
- Graphical programming
- Reduction of the program-related machine downtimes
- Realistic planning and reliable feasibility studies of the robot processes
- Examination of the cycle time
- Direct data exchange via the robot
- Signal simulation
- Import of 3D CAD geometry via various interfaces possible
- 3D CAD module for modeling of robot and work cell
- Layout generation functions: Loading, deletion, placing, duplication and measuring of objects



All control functions run in RobOffice under the same conditions like in the real control ROBOTstarV. Thus, you will receive reliable information about program operation, cycle times and accessibility of positions.



In cooperation with:



eMPower™

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REIS ROBOTICS

With ProSim you can plan and analyze process sequences and cell concepts true to reality. ProSim explains all traversing movements of the robot, anti-collision examinations and the cycle time.

Reis Robotics Inc. · 1320, Holmes Road · USA-Elgin, IL 60123 · Phone: ++1-847-741-95 00 · Fax: ++1-847-888-27 62

Reis GmbH & Co. Maschinenfabrik · P.O.Box 110161 · D-63777 Obernburg

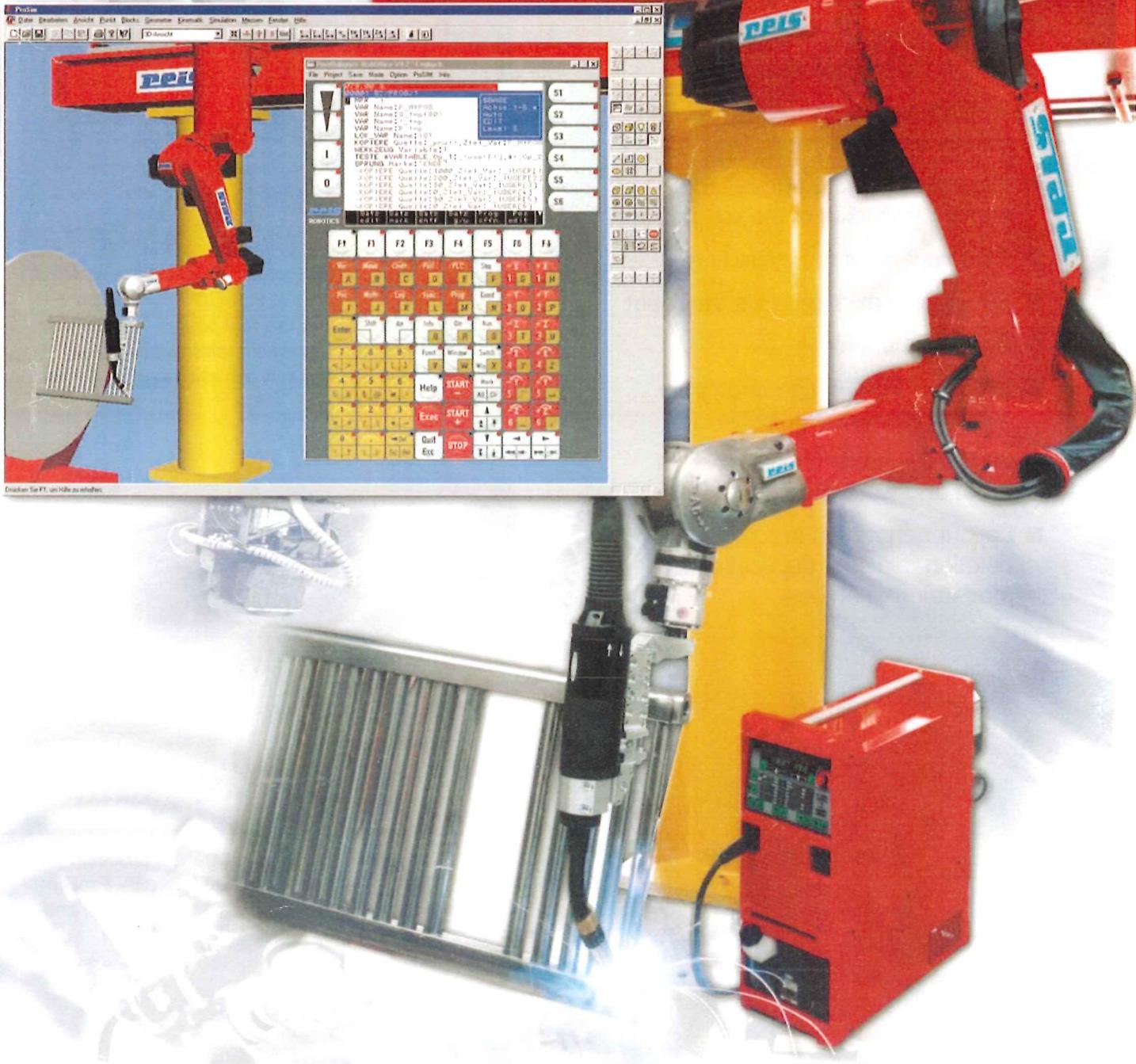
Tel: ++ 49 (0) 60 22-5 03-0 · Fax: ++ 49 (0) 60 22-5 03-110 · Internet: [www.reisrobotics.de](http://www.reisrobotics.de)

Reis Subsidiaries in Italy, France, Spain, Czech Republic and Brazil. Sales and service in many countries.

# REIS ProSim

The simulation software for optimal extension and visualization of the Offline-Programming system RobOffice.

RobOffice - offline tool  
RobAssist - application related programming and operating tool



REIS ROBOTICS - leading in systems integration

Complete systems from one source.  
Competent, custom and economical.

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# REIS ROBOTS and PERIPHERAL MODULES



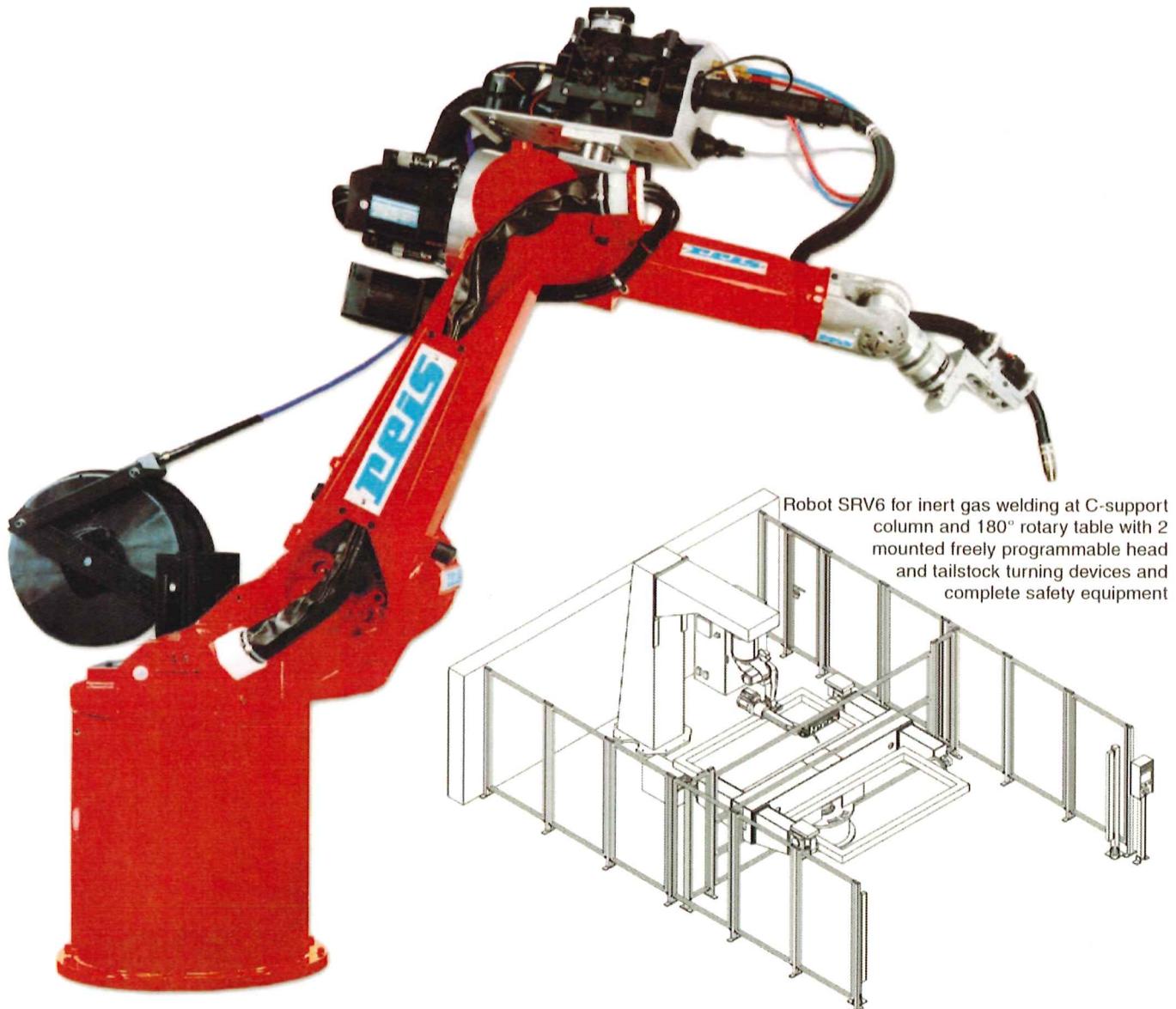
Leading in systems integration

**WELDING  
& CUTTING**

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REIS ROBOTICS

# REIS ROBOTS

Robot series	Max. load	Add. load	Work envelope
SRV4	4 kg	6 kg	Ø 2,160 mm
SRV6	6 kg	10 kg	Ø 3,050 mm
SRV6L	6 kg	10 kg	Ø 3,450 mm
SRV16	16 kg	10 kg	Ø 3,070 mm
SRV16L	16 kg	20 kg	Ø 4,800 mm

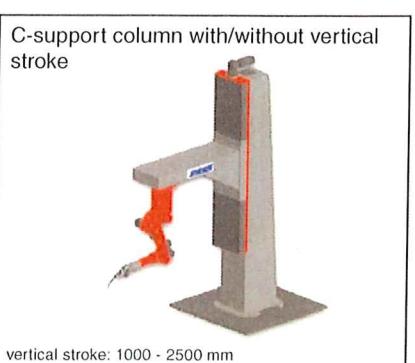
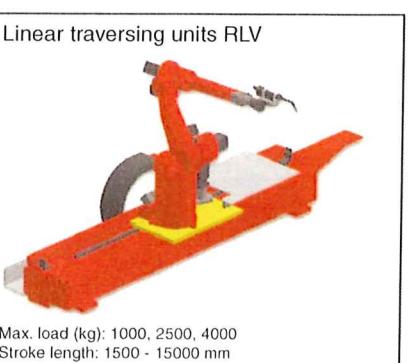
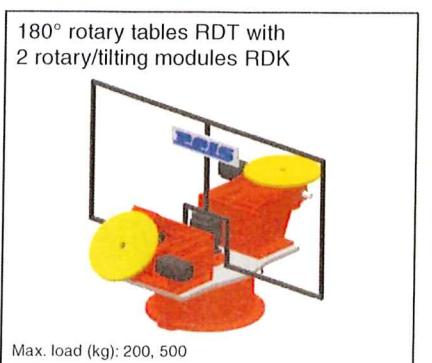
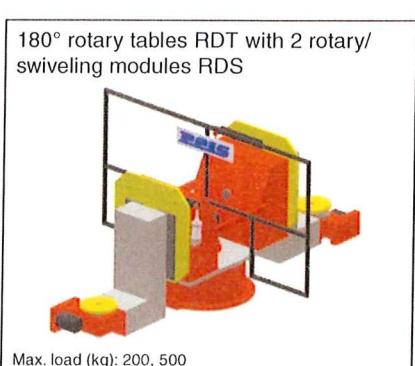
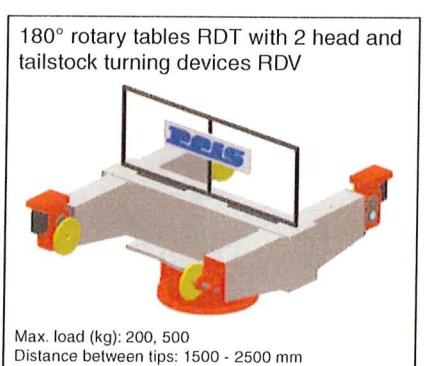
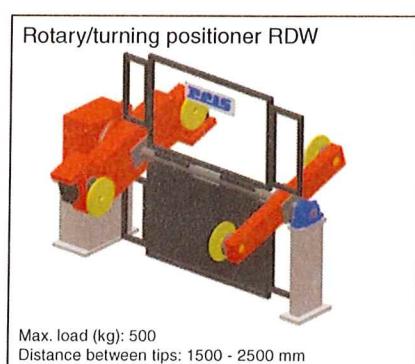
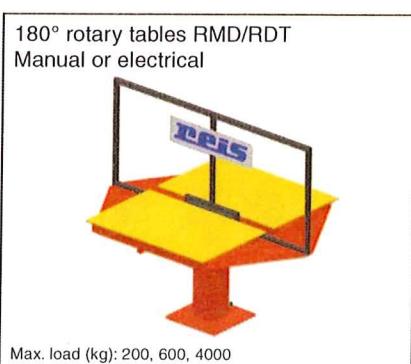
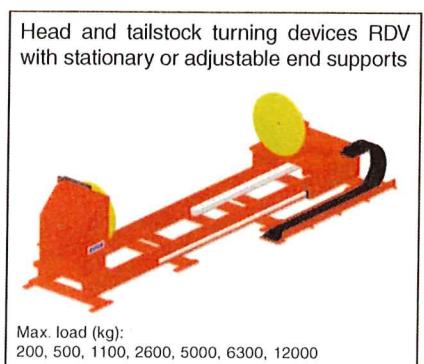
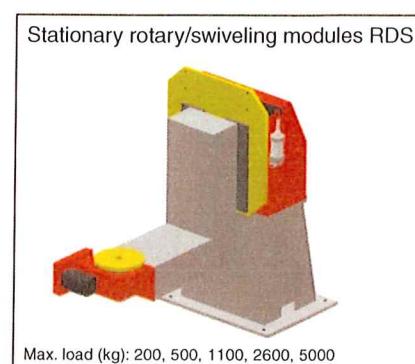
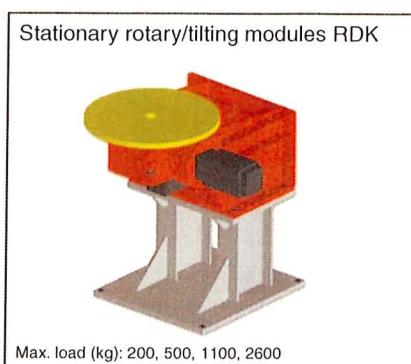
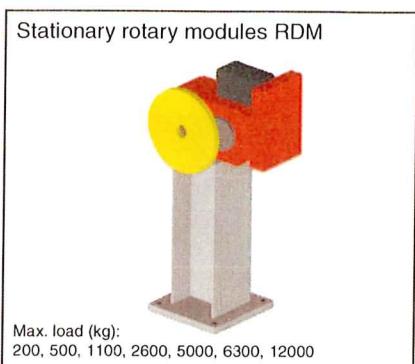


## Advantages:

- Usable for all welding and cutting tasks
- Repeatability  $\pm 0.05$  mm or  $\pm 0.1$  mm depending on robot series
- Shortest cycle times due to high dynamic AC servo motors
- Transformation of multiple axes of all additional peripheral axes
- Reduced programming efforts due to e.g. automatic program adjustment

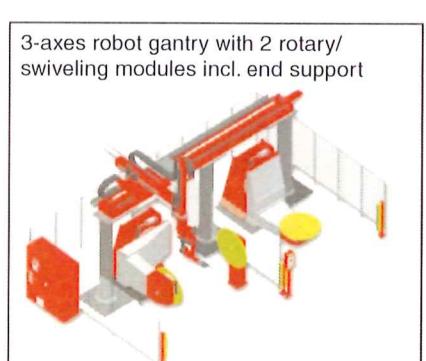
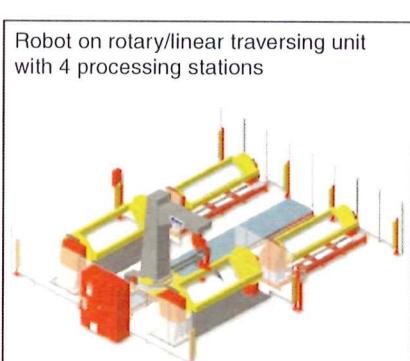
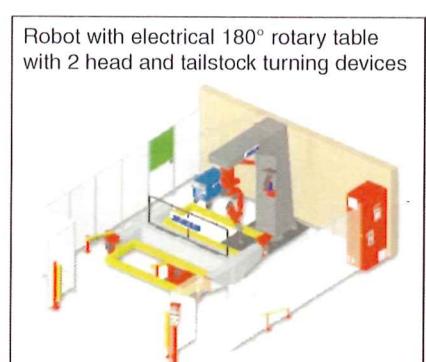
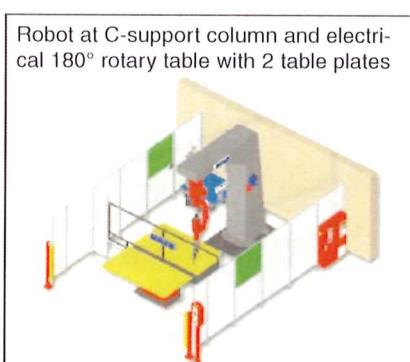
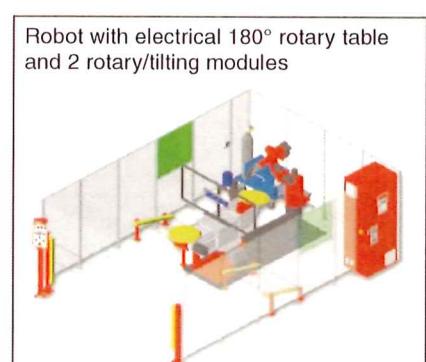
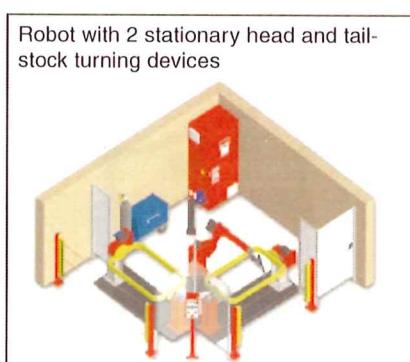
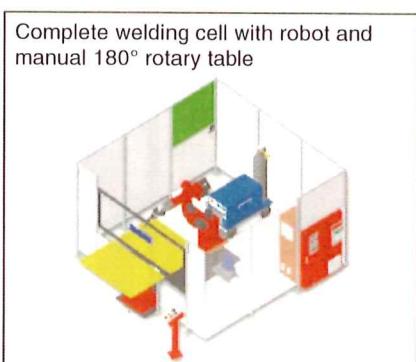
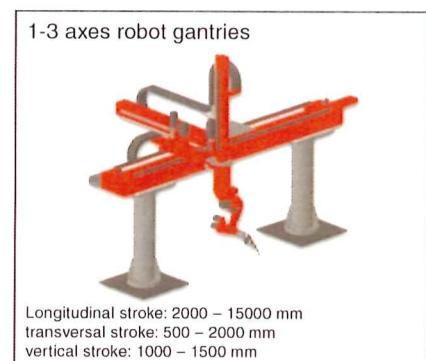
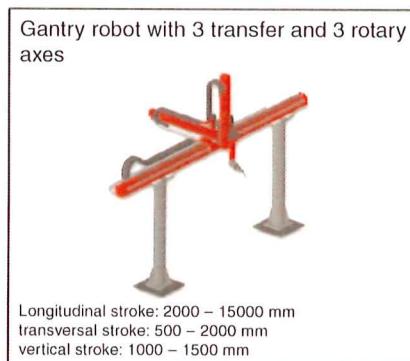
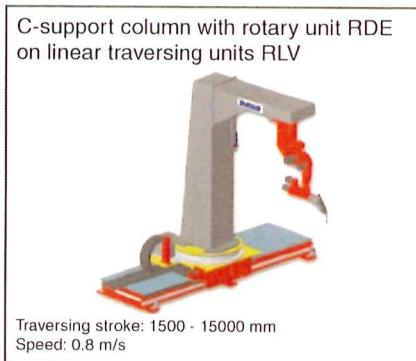
# REIS STANDARD PERIPHERAL MODULES

The standard peripheral modules are freely programmable and fully integrated into the robot control. Thus workpieces are provided to the robot in an optimum way. This ensures highest quality at shortest cycle time.



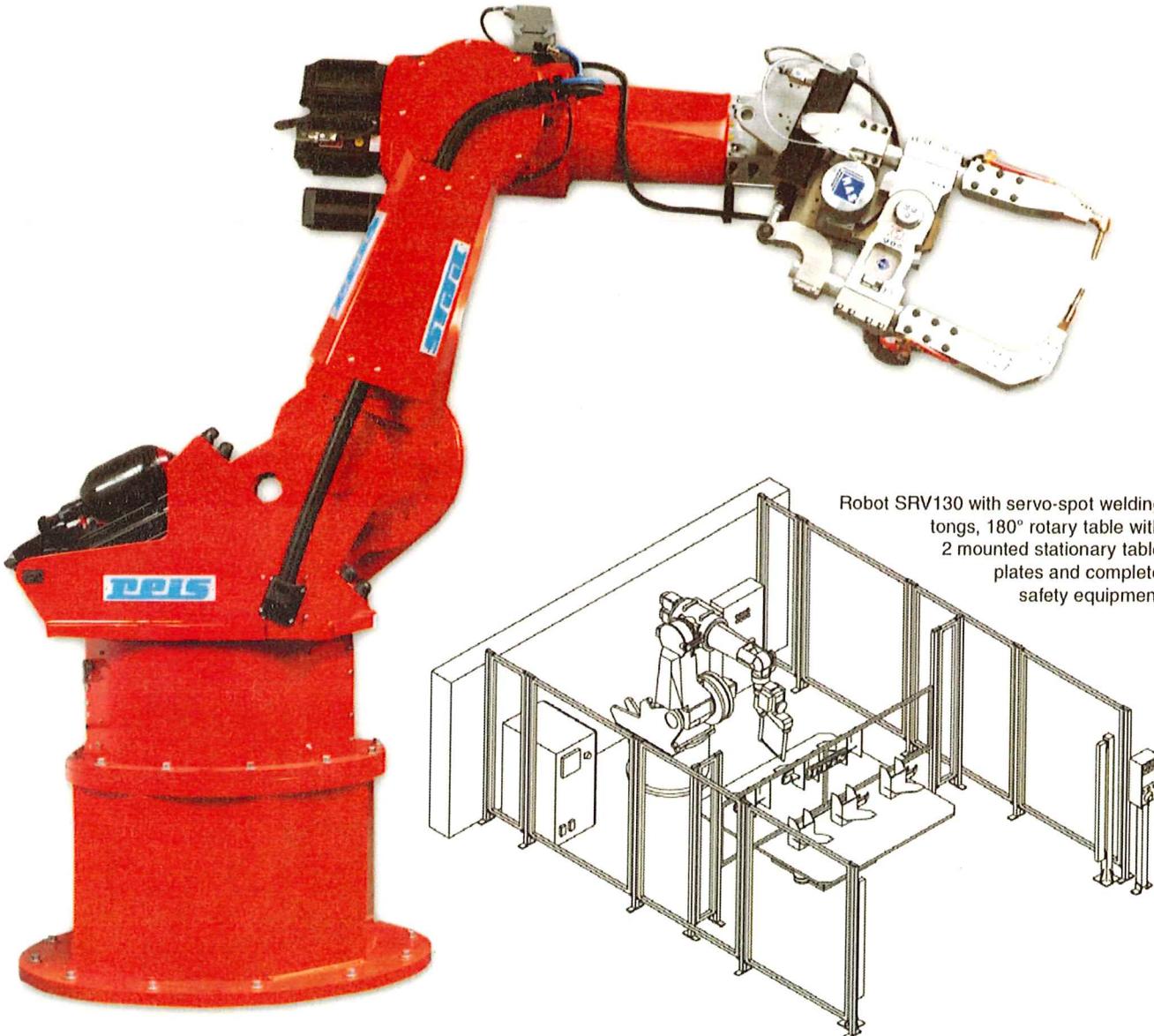
# REIS STANDARD PERIPHERAL MODULES

The standard peripheral modules are freely to combine among each other. With it, standard systems can be arranged individually with up to 24 freely programmable axes at low cost.



# REIS ROBOTS

Robot series	Max. load	Add. load	Work envelope
SRV40	40 kg	20 kg	Ø 5.300 mm
SRV40S	40 kg	20 kg	Ø 5.900 mm
SRV60	60 kg	20 kg	Ø 4.500 mm
SRV60L	60 kg	20 kg	Ø 5.960 mm
SRV60LS	60 kg	20 kg	Ø 6.600 mm
SRV130	130 kg	80 kg	Ø 5.194 mm



## Advantages:

- Usable for all joining tasks e.g. spot welding, punch riveting, pressure joining etc.
- Handling of components beneath a stationary welding or cutting torch or joining tool
- Repeatability  $\pm 0.1$  mm or  $\pm 0.4$  mm depending on robot series
- Error-tolerant position measuring system towards external interference
- Graphical offline programming system to increase the system utilization

# REIS APPLICATIONS



MAG welding of fuel tanks



Master-slave system for scaffold components



Small series production with modular fixtures construction



Gantry welding system for large components

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REIS ROBOTICS

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# REIS ROBOTS and SYSTEM SOLUTIONS

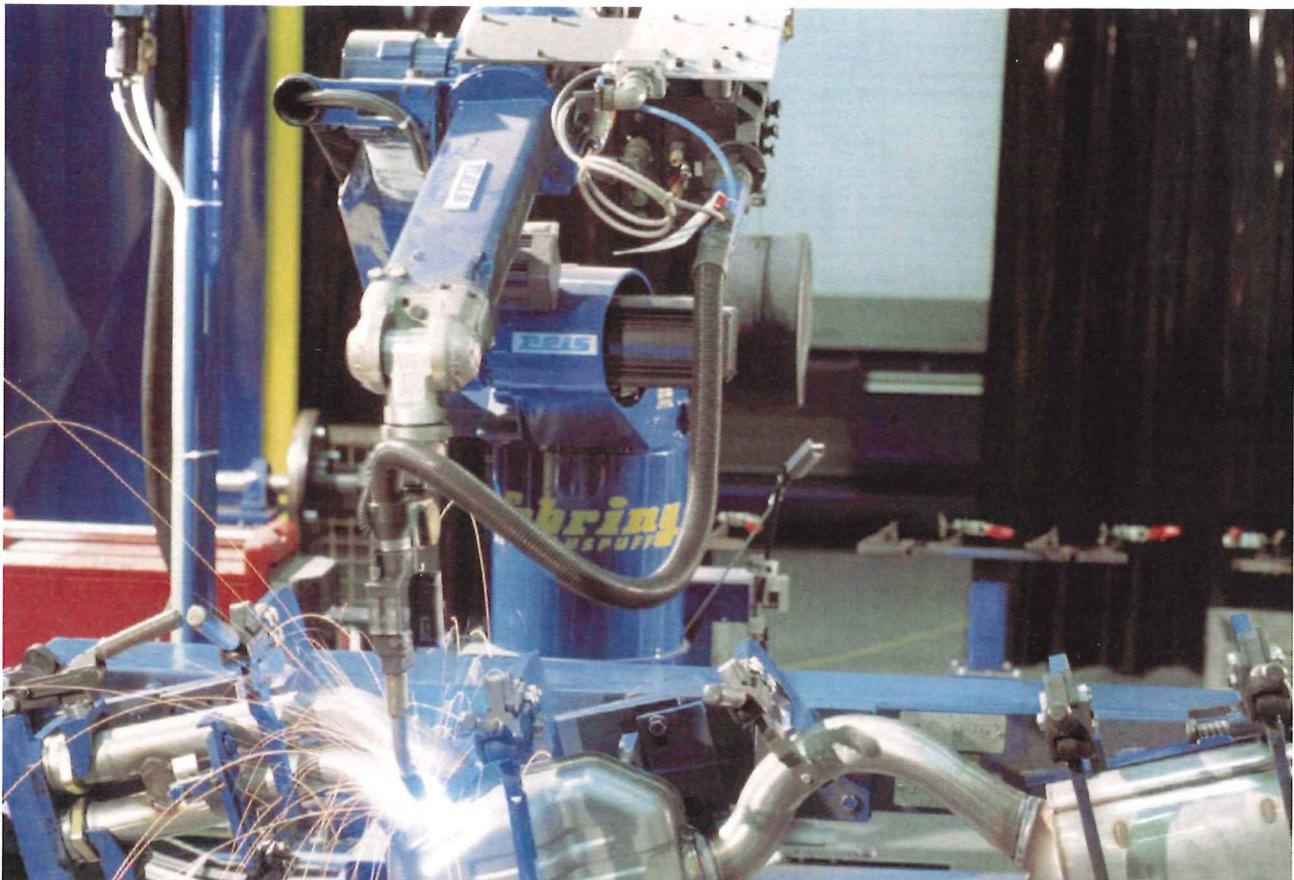
Leading in systems integration

**WELDING &  
CUTTING**

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# MAG welding systems

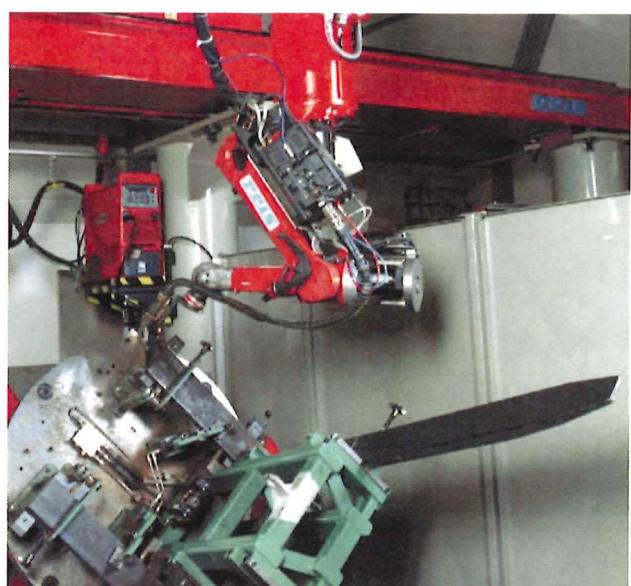
Competence and experience for solutions proven in practical use



6-station welding system with 3 robots for automated production of exhaust systems in thin sheet metal. Integrated process and quality monitoring.

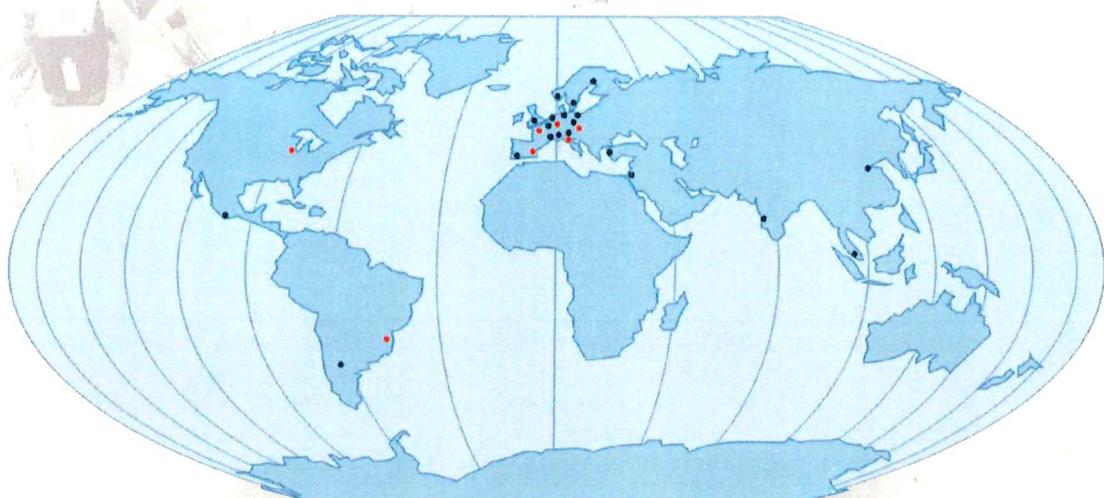


12 axes gantry welding system for the production of heavy machine frames. Components positioning via freely programmable rotary/lifting axis.



Automated production of forks for lifting trucks through freely programmable rotary/tilting modules and robot cantilever gantry.

# REIS ROBOTICS – All over the world



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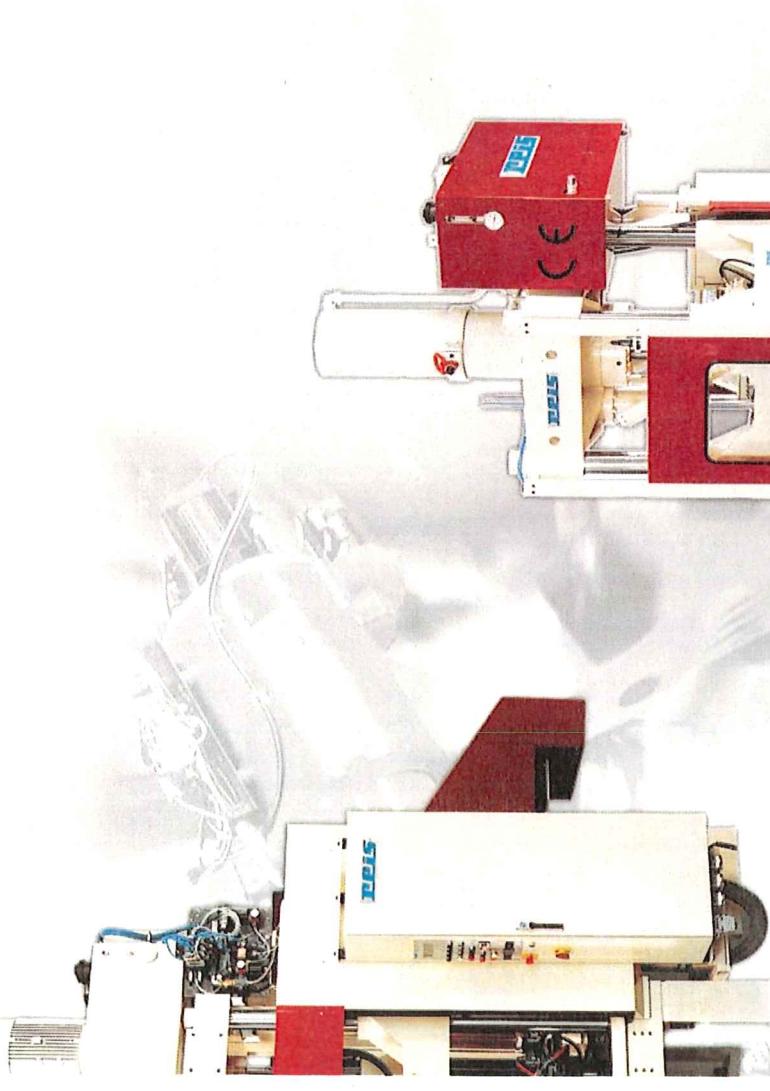
Reis Robotics CR spol. s r.o.  
Cernovice 173  
CZ-430 01 Chomutov  
Phone: ++42 (0) 396-6385-0  
Fax: ++42 (0) 396-6385-20



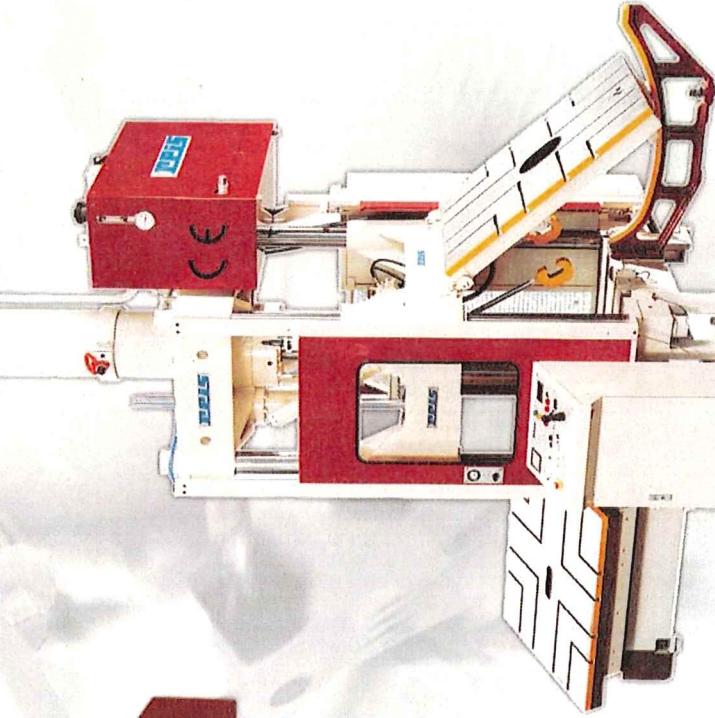
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sses and trim tools and processing stations have been the  
9Y, quality and performance for decades.

The performance is based on state-of-the-art machinery &  
control. Up-to-date manufacturing methods and systems &  
and high performance technology.



A complete series.  
precision and



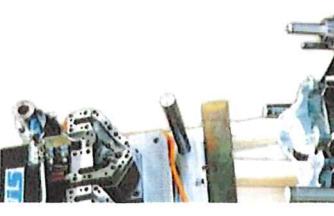
Hydraulic try-out and spotting presses make dies and  
tools ready for production at low cost and high quality.



Final assembly of a group of robots.



Our own manufacture of precision components  
and quality inspection.



100 % calibration of all robots



Employees for consultation, planning, project design and execution ensure competent attention during all phases of the project. The subsidiaries and partners ensure full support and fast service on site worldwide.



on and planning for correct customized



Highly qualified service technicians for assembly and installation, commissioning and programming guarantee continuous, fast and economic service for the life of the product.



Commissioning and operation by the customer



ering in modern

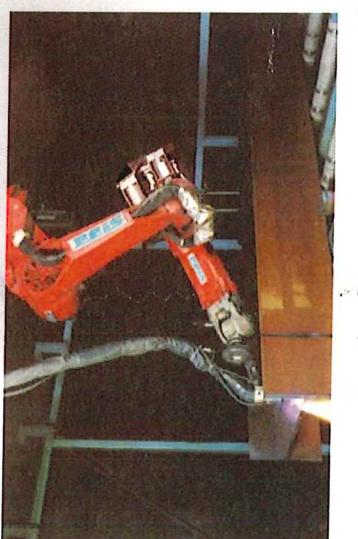
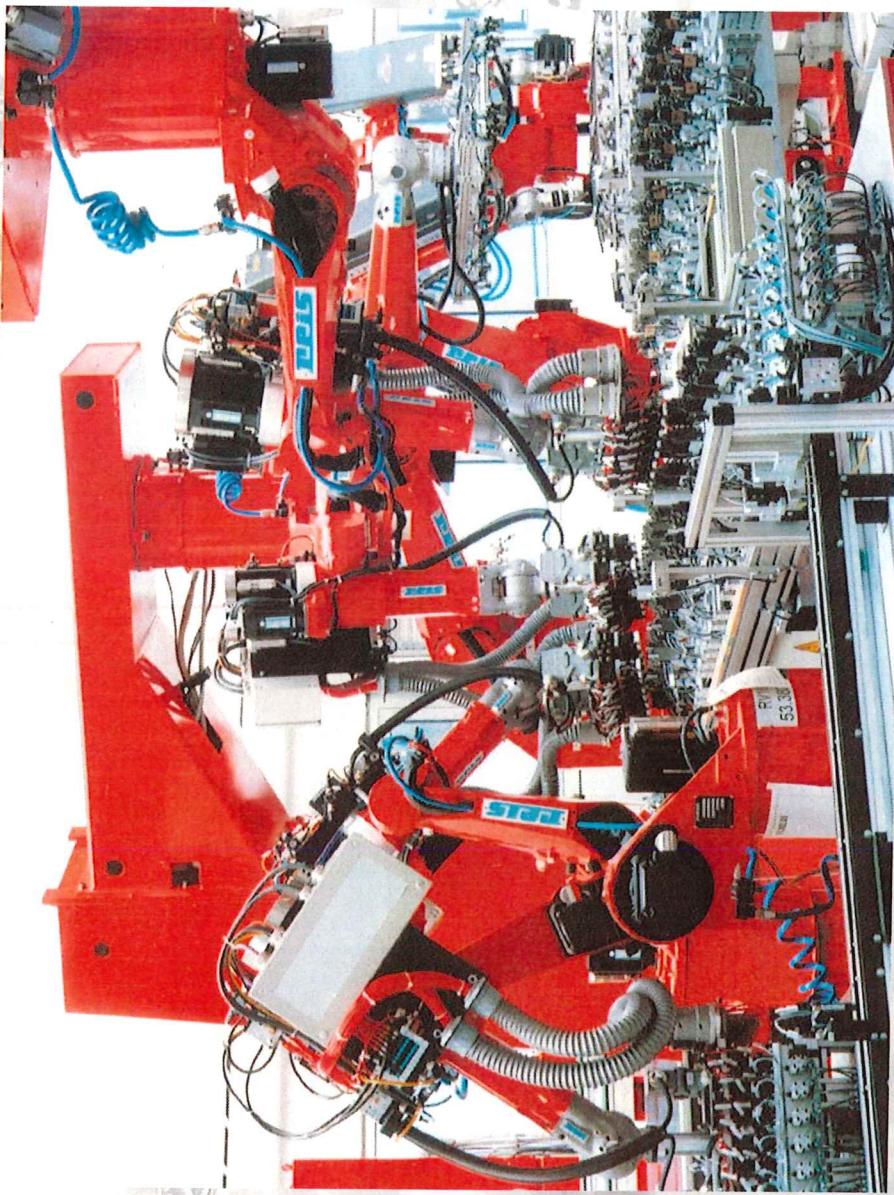
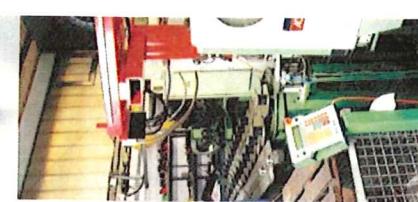


Full training programme and programming and

#### First-class references:

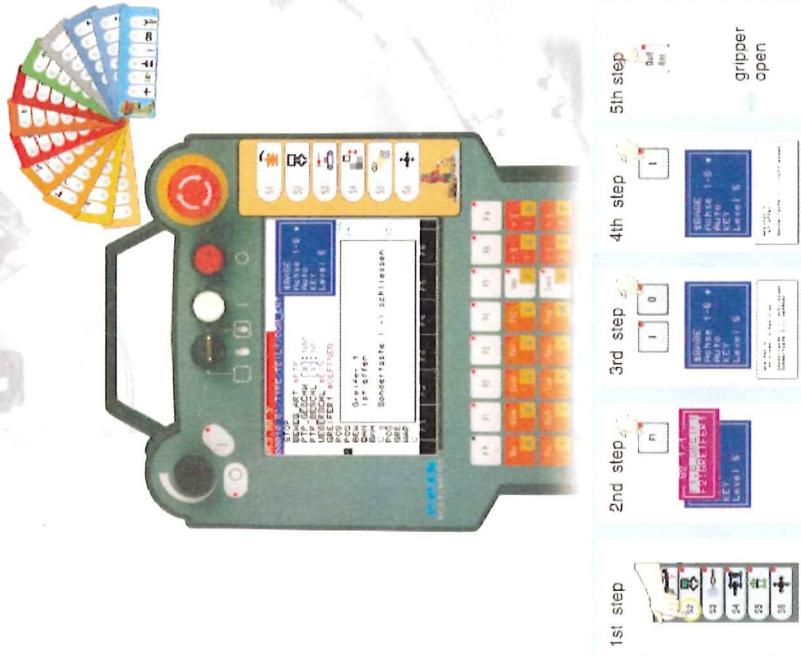
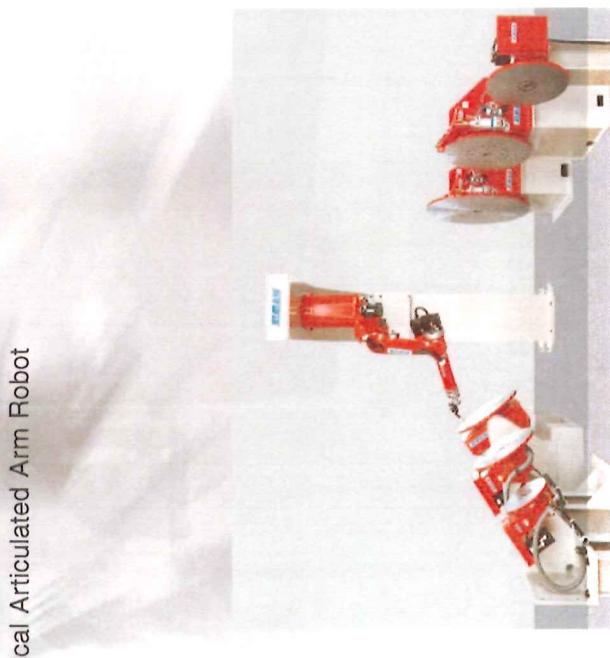
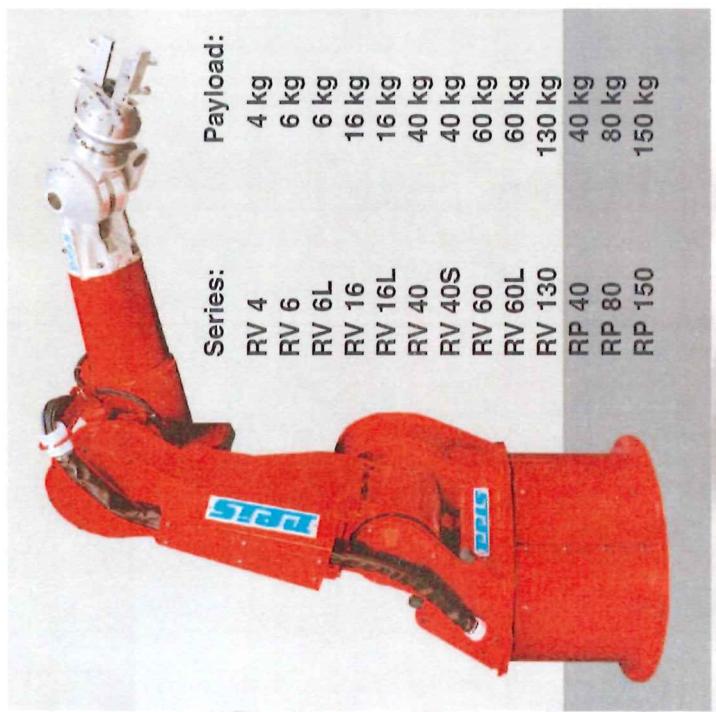
AEG, Oldenburg. Akzo, Oberburg. Wupperal. BASF, Wilnsdörft. BAT, Berlin. Baumüller, Nürnberg. BBP, Münster. Bosch, Stuttgart. Beckum. BMW, München. Braun, Kronberg. Marktbergenfeld. BSI, Remscheid. Cirtron. Paris. Continental. Gummiwerke, Hannover. Daimler-Benz, Stuttgart. Desag, Grünenplan 2. Faun, Laut. a. d. Pegnitz. Fahrer, Braunschweig. Festo, Neidlingen. Fichtel & Sachs, Kitzingen. Fischer Gf. Metzmann, Ford, Berlin. Düren. Köln. Ford Motor, Dagenham. Swanssea (England). Grundfos, (Dänemark). Haubger, Guß, Saarbrücken. Haring, Espelkamp. Hilti, Lichtenstein. Norsingen. Honeywell, Emmer (Niederlande). KHD, Köln. Kienzle, Willingen. Kohl Senking, Hildesheim. Kolbenschmidt, Hamburg. Neckarsulm. Lever Sunlicht, Münheim. Lunde, Aschaffenburg. Möbsbach. Honsel-Werke, Meschede. Solingen. Hülsbeck & First, Velbert. Spanien. Karmann, Osnabrück. Kaup Aschaffenburg. KHD, Köln. Kienzle, Willingen. Kohl Senking, Hildesheim. Kolbenschmidt, Hamburg. Neckarsulm. Lever Sunlicht, Münheim. Lunde, Aschaffenburg. Lohr & Hummel, Ludwigsburg. MBB, Dornierwöth. Metabo, Nürtingen. Michelin. Löhr & Brölkamp. Offenbach. Löfner, Lübeck. LSG, Frankfurt. Martin, Göppingen. Mahle-Werke, Stuttgart. Mannesmann-Demag, Fördertechnik. Usar, Walter. Mannesmann Rexroth. Lohr. Mann & Hummel. Ludwigsburg. MBB, Dornierwöth. Metabo, Nürtingen. Michelin. Halstedt. Karlsruhe. Bad Kreuznach. Meile, Gütersloh. Mittelmann. Wülfrah. Mössner, München. Werdohl. Pälzer, Seligenstadt. Papst-Motoren. Herbolzheim. Perguform, Göttingen. Peiri. Aschaffenburg. Brasilien. Peugeot, Mulhouse (Frankreich). Philips, Hamburg. Pierburg, Berlin. Nettetal. Pontiac Motor (GM). Pontiac, Michigan (USA). Porsche, Stuttgart. Procter & Gamble, Cralithem. Worms. Michelin (Belgien). Cincinnati (USA). Recticel. Weiteren (Belgien). Rheinbreitbach. Renault Automobiles, Paris. Rowenta, Offenbach. Erbach. Solvay, Brüssel (Belgien). Schenck, Mülheim. Siemens, Würzburg. Bad Neustadt. SKF, Schweinfurt. Frankreich. USA. Stahlschmidt & Maiwald, Werdohl. Stihl, Waiblingen. Weinsheim. Thyssen, Bogen. Wupperal. Vaillant, Roding. Gelsenkirchen. Remscheid. VDO.

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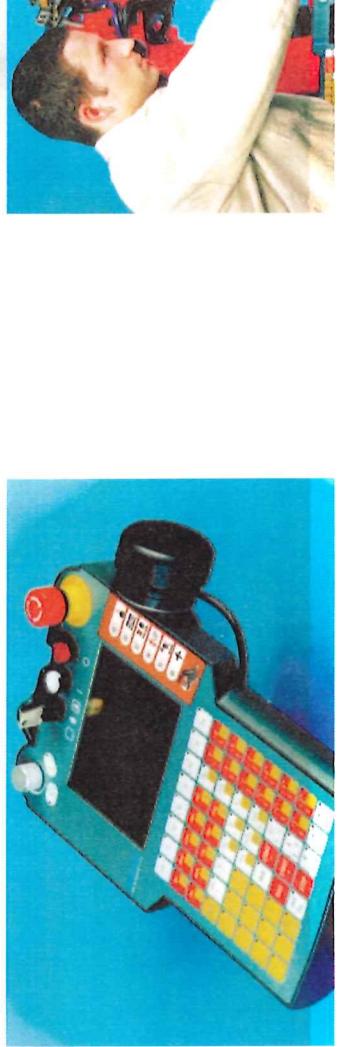


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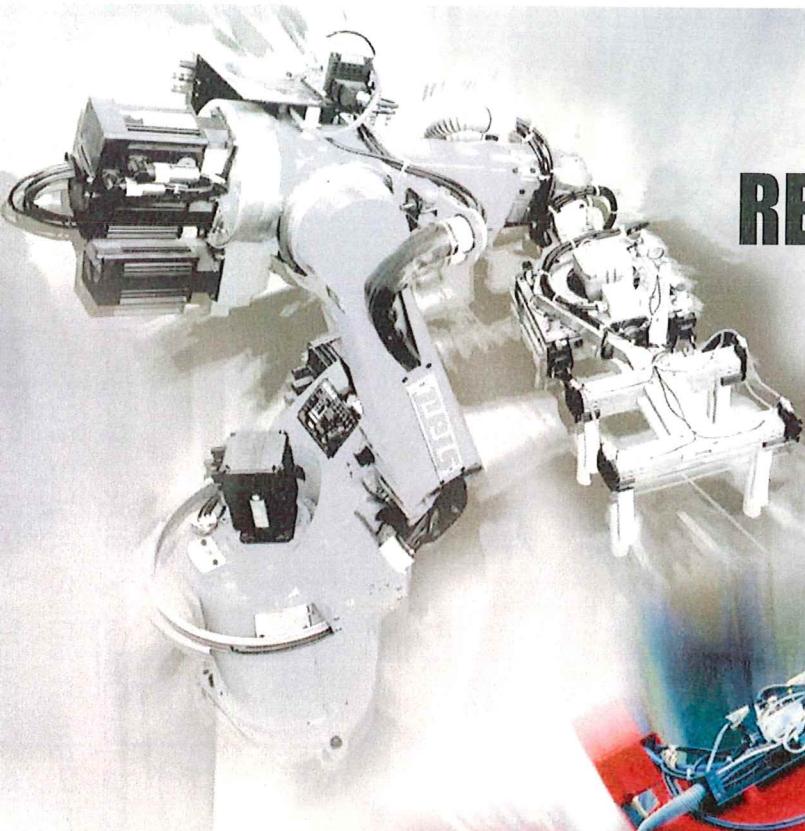


RobAssist – an application related programming and  
operating tool.



RobOffice - off-line  
ProSim - simula





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